



soa.army.mil – Briefing

As of 21 May 2007 in the
Enterprise Business Lab



Soa.army.mil and the EBL



The Enterprise Business Lab (EBL) is Ft. Belvoir's implementation of a true enterprise-level development and proving ground for emerging and advanced technology capable of supporting the Army and the Warfighter. In this briefing, we address the current state of the Lab.

What we cover today...

- **Enterprise-level software integration** focused on Enterprise Service Bus vendor integration.
- **Scalable technology reducing IT costs** focused on server virtualization.
- **Presentation layer support** and how we are leveraging SharePoint 2007 in conjunction with single-signon and federated authentication management.



ESB Vendors

- Invite SOA Vendors into EBL for demonstration of ESB capabilities and interoperability
- IBM
- BEA
- Microsoft
- Tibco
- Oracle

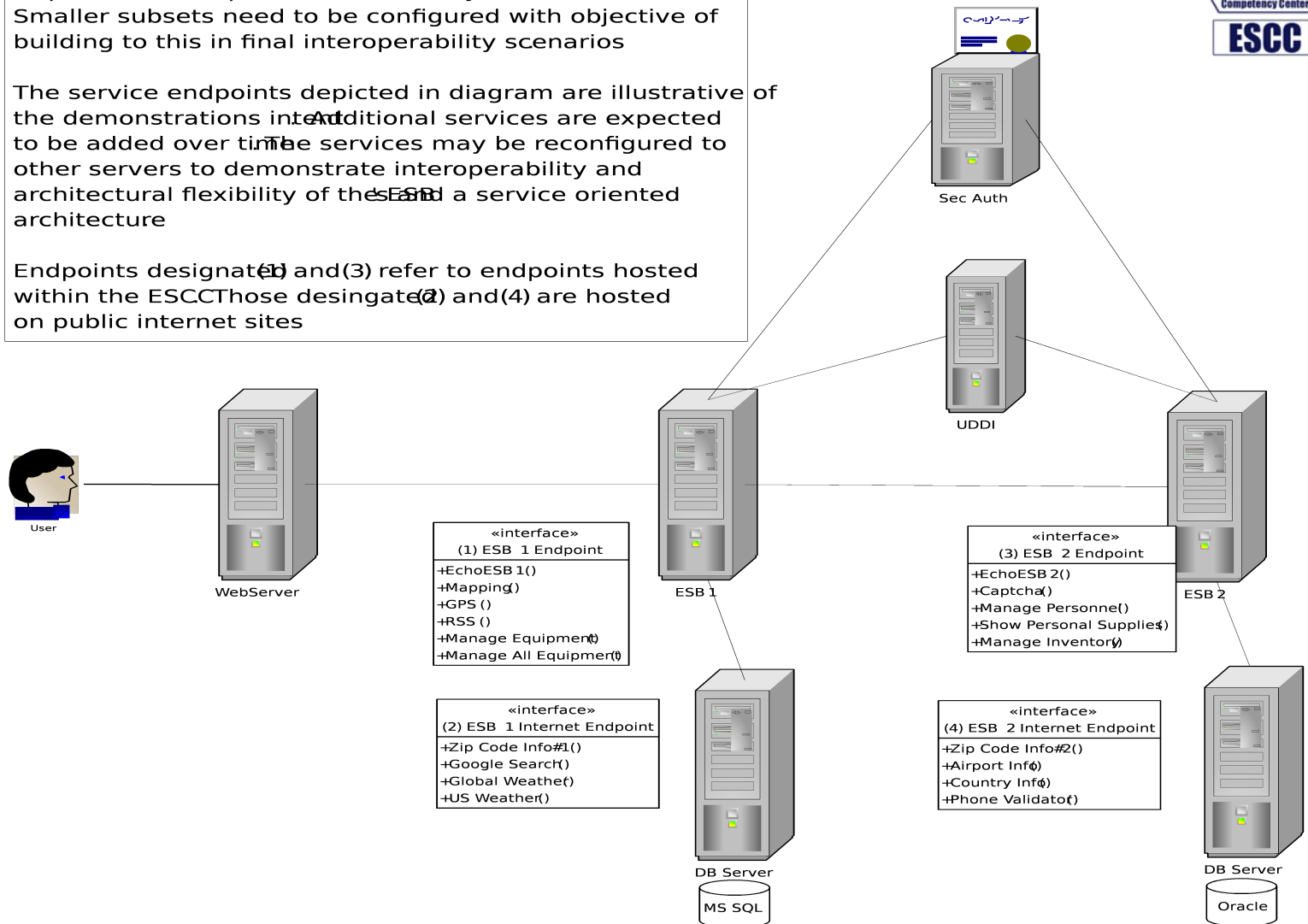
ESB Demonstration Architecture



Depiction of component connectivity by route/firewall
Smaller subsets need to be configured with objective of building to this in final interoperability scenarios

The service endpoints depicted in diagram are illustrative of the demonstrations intended. Additional services are expected to be added over time. The services may be reconfigured to other servers to demonstrate interoperability and architectural flexibility of the ESB.

Endpoints designated (1) and (3) refer to endpoints hosted within the ESCC. Those designated (2) and (4) are hosted on public internet sites.





Forward Vision: ESB's

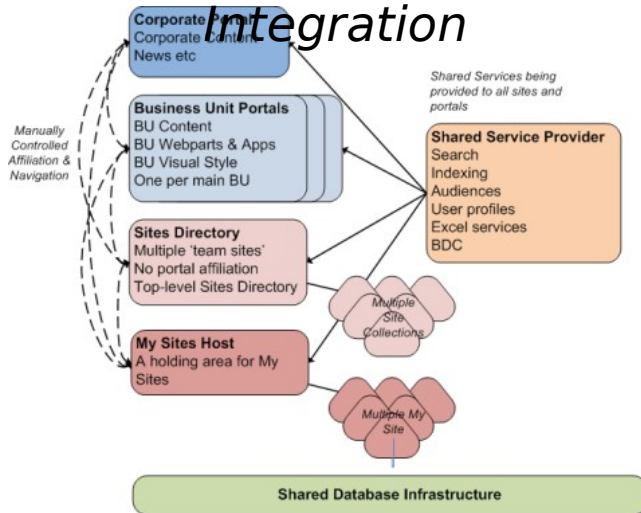
- Give vendors opportunity to demonstrate “real-world” advantages of ESB's and SOA architecture
- Demonstrate interoperability and tiered ESB's and other SOA products
- Based on EBL experiences make available ESCC expertise SOA lessons-learned for the Army
- Ultimately publish and demonstrate ESB experience via SOA.ARMY.MIL



EBL Presentation Layer

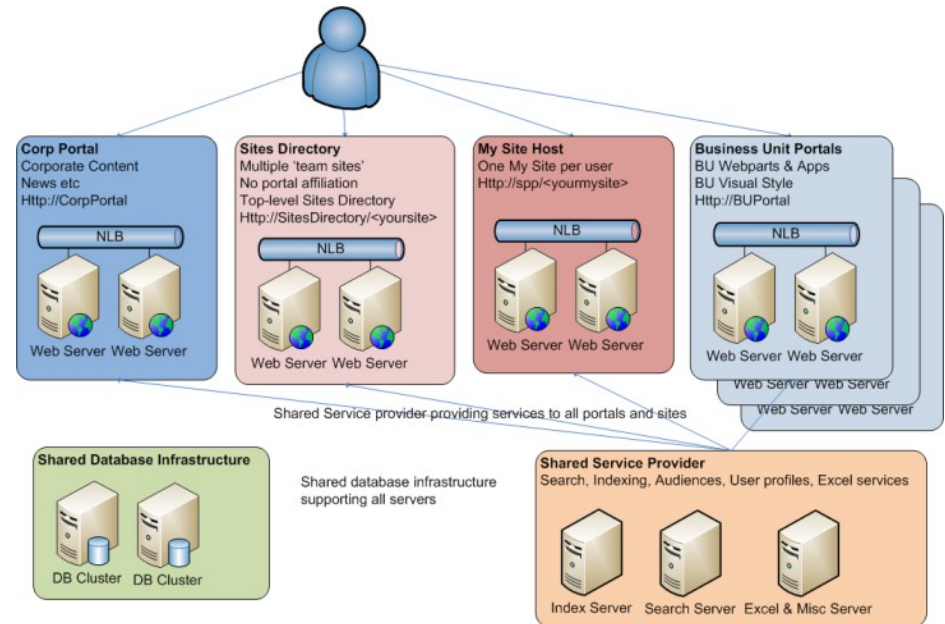


SharePoint Logical Integration



SharePoint 2007 uses a logically separated development model where the front-end portals, sites, and directories tie into a scalable set of common services. The heart of SharePoint 2007 is the backing database layer.

SharePoint Physical Integration

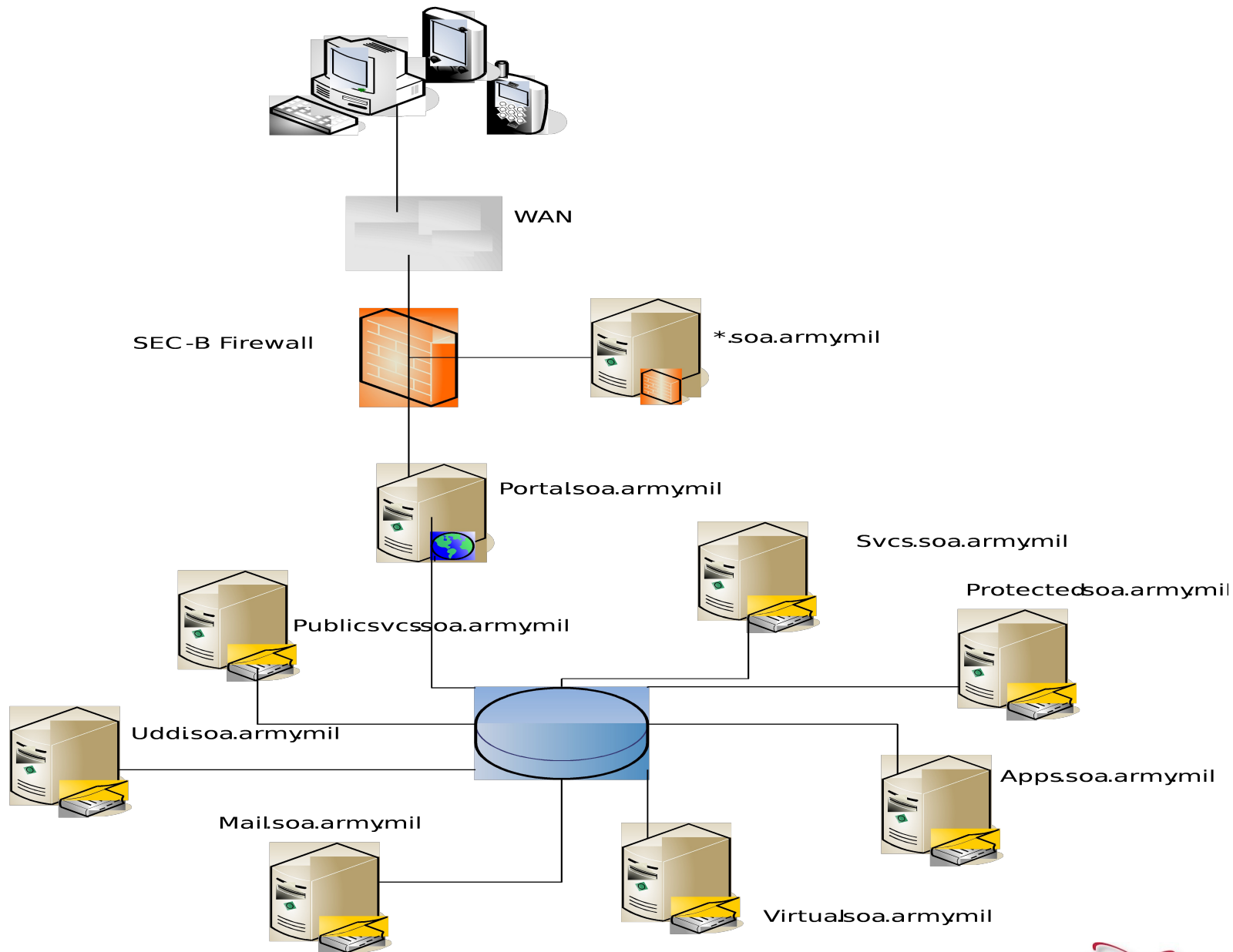


Physically, SharePoint 2007 can be scaled *in any direction*, both at the edge (portal layer) the center (shared services like Search as well as individual server components like Project Server), and third-tier (database farms).





AKO SSO BREAKDOWN



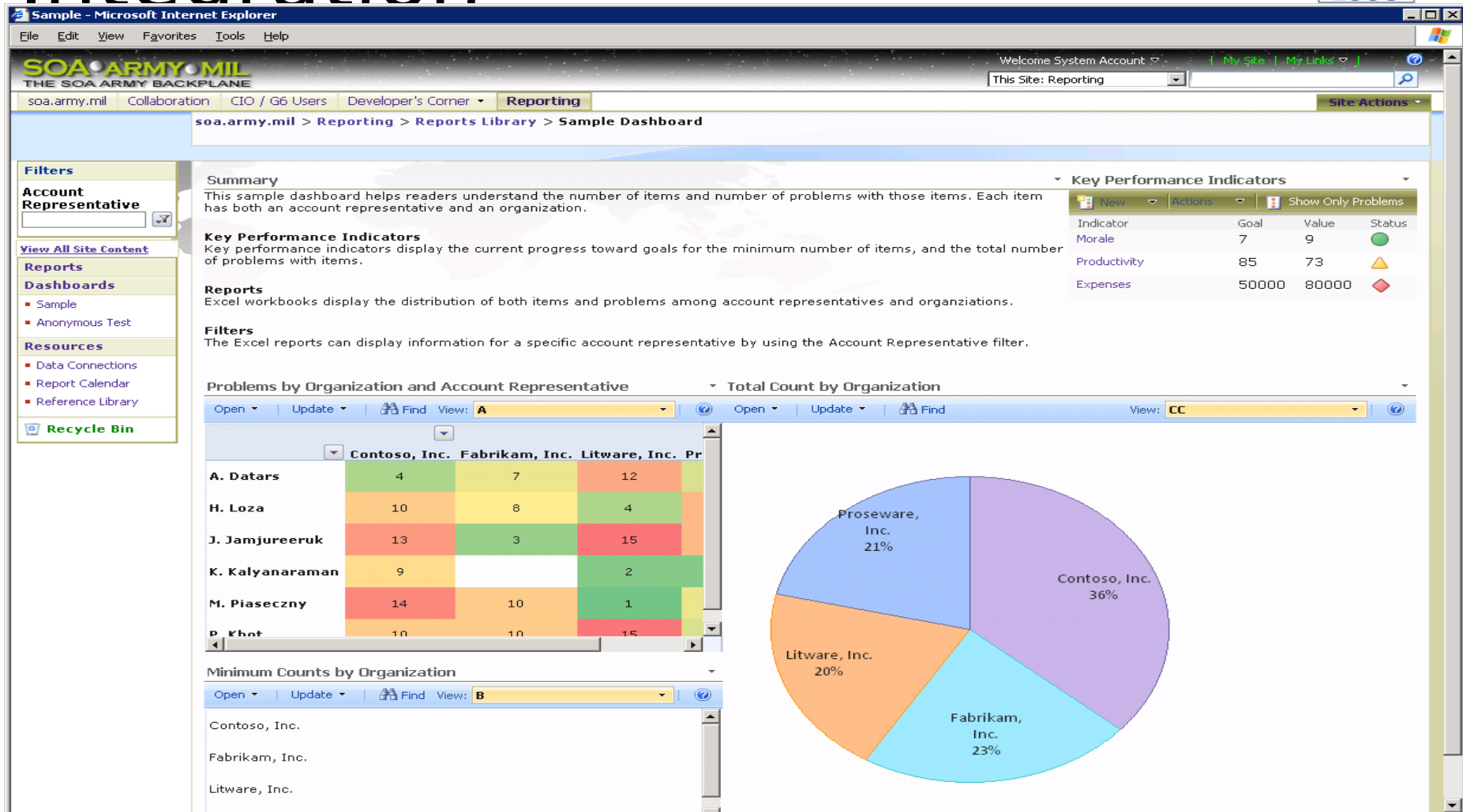
SharePoint Branding



- Uses “Master Pages” and “custom themes” to allow completely different user experiences for the same backing content.
- Switching user experiences is trivial, and can be controlled at a single front-end control panel.



SharePoint Dashboard Integration



Timeline

Legend		Work In Progress		Maintenance
		Milestone		Preprocess



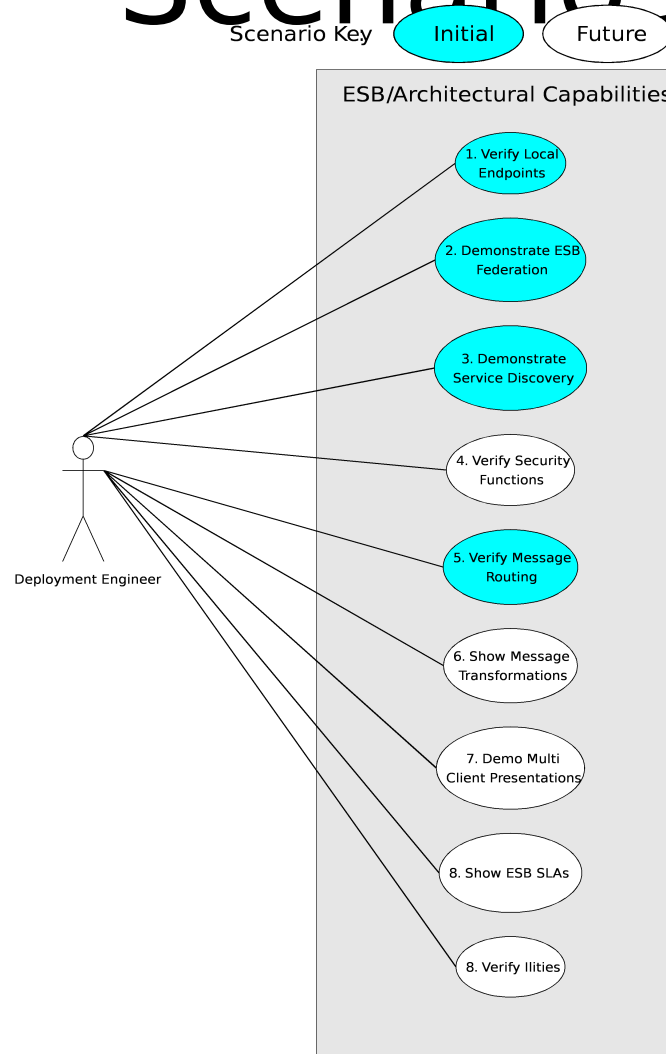
	MAY	JUN	JUL	AUG	SEP	OCT
Hardening Lab (SEC-B Accreditation)						
Lab server virtualization (recreating / provisioning all ESB vendors)						
Configure CAC / AKO SSO with SharePoint 2007						
Validate / Send out initial vendor invitations						
ESB Vendors in EBL (First Set)						
ESB Vendors in EBL (Second Set)						



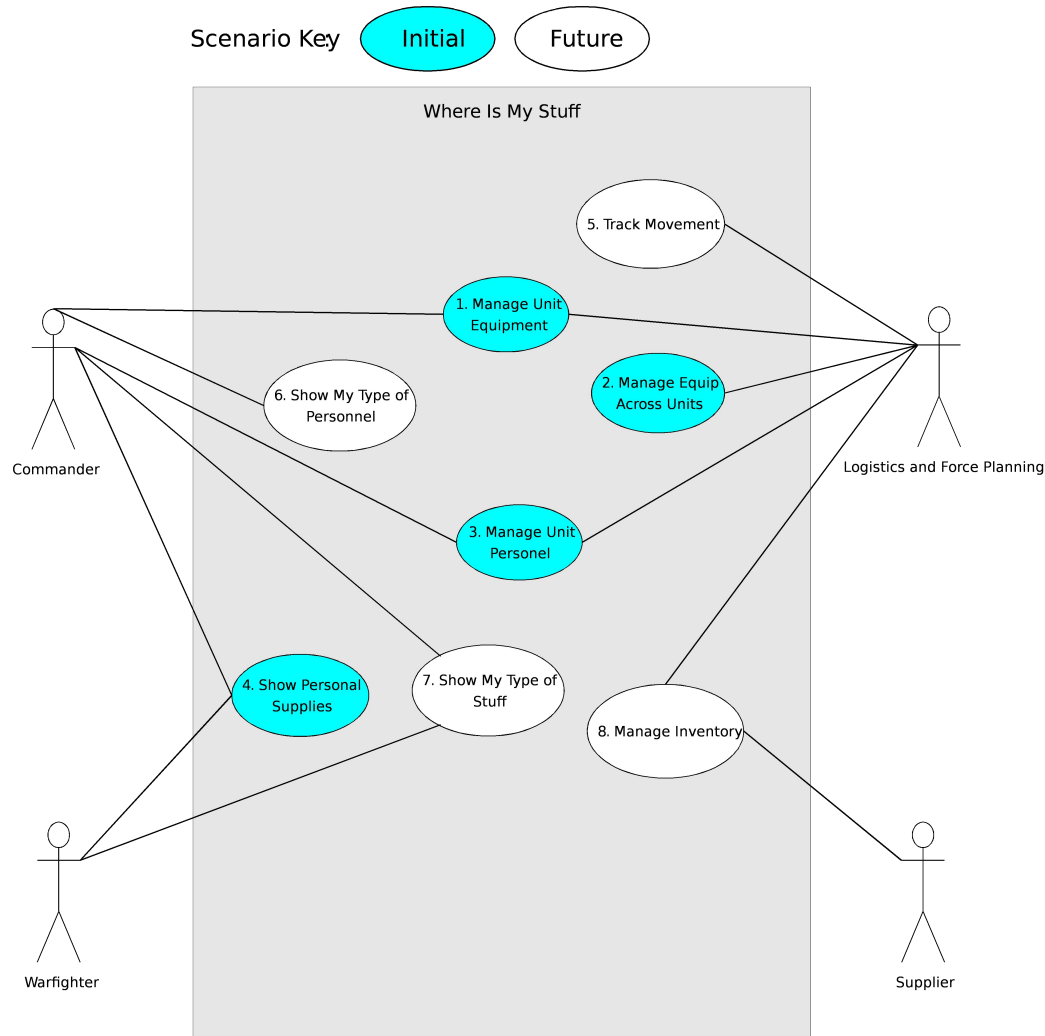
Backup Slides



ESB Technical Scenarios



ESB Mission Scenarios



Cassatt Collage: Enabling Utility Computing



- **Hardware Virtualization**
 - Increased Hardware ROI
 - SOA lab has 6-1 ratio
 - HP BladeSystem - 10 blades, 60 Virtual Machines
- **Network Virtualization**
 - Infrastructure Flexibility
 - VLAN Management
- **Capacity on Demand**
 - Application Priority
- **High Availability**
 - SLA Requirements
 - Rules Engine
- **Green Data Center**
- **Operating System and Software Flexibility**

Hardware Virtualization

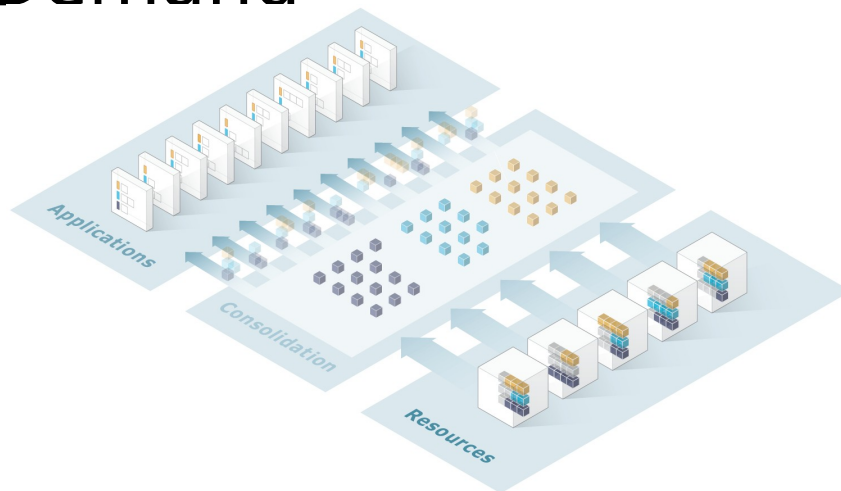
- Multi-CPU systems under utilized 
- Dual CPU Intel quad-core can run 6 VMs
- 10 Blades turn into 60 VMs
 - All Power Controlled
 - Capacity On Demand
 - Energy Savings
 - P2V and V2P Rollover

Cassatt

Network Virtualization



- VLAN API Control
- Reprovisioning across Virtual LANs
- Capacity-On-Demand



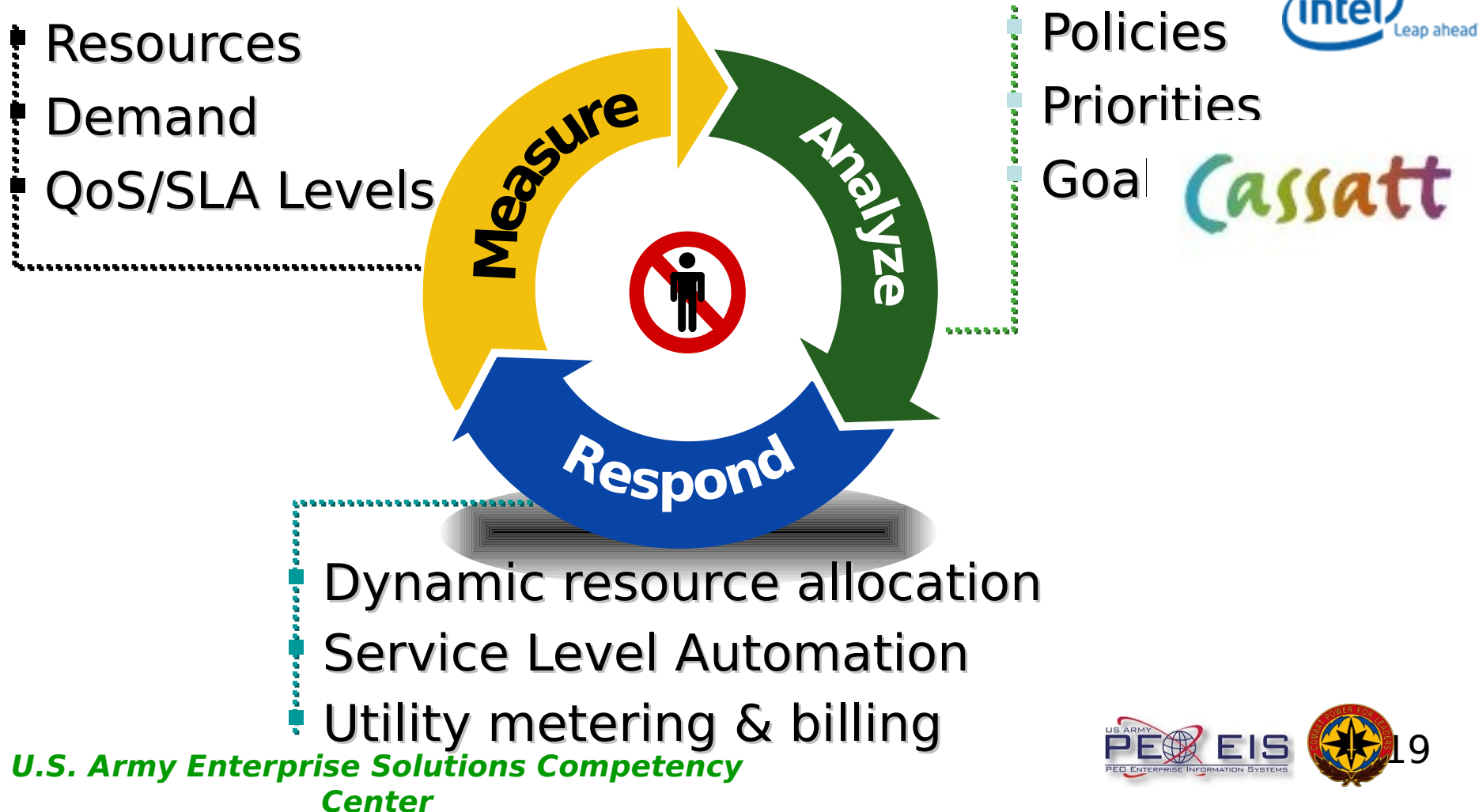


HW and SW Flexibility

- SOA Service Buses
 - TIBCO
 - AquaLogic
 - Oracle
- Web Servers
 - Weblogic
 - JBoss
 - WebSphere
- Databases
 - Oracle
 - MySQL
 - MS SQLServer
 - SAP
- Hardware
 - Any PXE bootable machine
 - Dell, HP, IBM power controlled machines
- Collage enables OS and Application version control



Cassatt Collage: How Does It Work?



Green Data Center



- XVM and Collage Power Management  Leap ahead™
 - IBM
 - HP
 - Dell
- Blade systems
 - IBM
 - HP
 - Hitachi

